

TITLE

GENES ENCODING CAROTENOID COMPOUNDS

ABSTRACT OF THE DISCLOSURE

Genes have been isolated from *Pectobacterium cypripedii*
5 encoding geranylgeranyl pyrophosphate (GGPP) synthase (CrtE),
phytoene synthase (CrtB), phytoene desaturase (CrtI), lycopene cyclase
(CrtY), β -carotene hydroxylase (CrtZ), and zeaxanthin glucosyl transferase
(CrtX) activity. The genes and their products are useful for the conversion
of farnesyl pyrophosphate to carotenoids. Vectors containing those DNA
10 segments, host cells containing the vectors and methods for producing
those enzymes by recombinant DNA technology in transformed host
organisms are disclosed.

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